

ABSTRACT

An electrodeless discharge lamp comprising: an airtight container bulb made of a transparent material and enclosing a discharge gas; and a coupler (coil assembly body), contained in a cavity formed in the bulb, for generating a high frequency electromagnetic field by conducting a high frequency current in a coil to excite the discharge gas so as to emit light, wherein the coupler comprises: a pipe-shaped cylinder formed of a thermal conductor for heat release; a skeleton-shaped bobbin mounted on an outer surface of the cylinder along an axial direction of the cylinder; a core made of a soft magnetic material provided at an opening formed by the skeleton of the bobbin and being in substantial surface contact with the cylinder; and a coil wound around a surface of the skeleton-shaped bobbin and the core. Thus, the core provided at the opening formed by the skeleton is in substantial surface contact with the cylinder for heat release, so that heat received by the coil from the heat-generating bulb is directly exhausted to the cylinder through the core.